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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,766	08/03/2001	Philippe R. Morin	9432-000141	8751

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EXAMINER	
LERNER, MARTIN	

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/921,766	MORIN ET AL.	
	Examiner	Art Unit	
	Martin Lerner	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 2, 4 to 14, and 16 to 26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, 4 to 14, and 16 to 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06/21/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4 to 14, and 16 to 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding independent claims 1 and 10, as amended, the term "necessarily" raises issues as to indefiniteness under 35 U.S.C. §112, Second Paragraph, as there are examples provided in the Specification where the audio feedback does not necessarily reflect the spotted words. Examples are dialogue turns 2, 5, 8, and 9, on Pages 14 to 15 of the Specification, where the confirmation message does not echo commands for "delete all", "correction", "repeat", and "send". Instead, a corresponding jingle is played, or the reply is a repetition of a prior utterance, or a response is "searching database". Also, in dialogue turn 4, the confirmation message misrecognizes the user input, and the audio feedback does not necessarily reflect the spotted words in the input utterance because the input utterance is misrecognized. Thus, the scope and definiteness of "necessarily" is not clear.

Regarding new claims 23 and 25, there are issues of indefiniteness with respect to several terms, which are not provided support by the Specification. The terms "tightly

coupled", "instant feedback", and "immediate opportunity" are not defined by the Specification. One having ordinary skill in the art would not know how "tightly" the dialogue must be coupled to meet the scope of the claims. Nor would one skilled in the art understand what constitutes "instant" feedback or an "immediate" opportunity to correct recognition errors. These terms are not defined expressly by the Specification, and one skilled in the art would not know what scope to accord them. Thus, these terms are indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, 8 to 10, 13, 14, 17, 19, 20, and 23 to 26 are rejected under 35 U.S.C. 102(b) as being anticipated by *Takebayashi et al.*

Regarding independent claim 1, *Takebayashi et al.* discloses a method of data entry by voice, comprising:

"communicating an input utterance from a speaker to a speech recognition means" – the speech understanding unit 11 includes a speech recognition device for recognizing words or sentences in the input speech, and is capable of extracting a semantic content intended to be expressed in the input speech

by analyzing the input speech, in a form of a semantic utterance representation (column 6, lines 48 to 54: Figure 1);

"spotting a plurality of spotted words of at least two recognized spoken words within the input utterance, wherein the spotted words form a phrase containing at least one of field-specific values and commands" – keyword detection unit 21 (column 8, line 55 to column 9, line 22: Figure 2); keywords are received in a word lattice or frame format ("field-specific values"), e.g. "three" "hamburgers" (column 10, lines 6 to 17: Figure 4); keywords include commands such as "order", "cancellation", and "replacement" commands (column 10, lines 18 to 24: Figure 5);

"echoing at least one of recognized values and commands back to the speaker via a text-to-speech system, wherein audio feedback echoing at least one of recognized values and recognized commands is performed upon interpretation of each input utterance, and a sequence of the recognized values echoed in the audio feedback necessarily reflects a sequence of the spotted words within the input utterance" – response generation unit 13 (column 7, lines 23 to 43: Figure 2; column 17, lines 61 to 65); the multimodal response output generated such that the speech response for the confirmation message of "Your orders are one hamburger, two coffees, and four large colas, right?" is outputted from the loudspeaker unit 15 (column 13, lines 41 to 50: Figure 12C); an order contains both "values" and "commands", as the values are the numbers and types of each item ordered, and the order is a command to provide the items ordered; for a situation in which one hamburger and one cola has already been ordered, the confirmation is "Your orders are one hamburger and one cola, right?"

(column 22, lines 18 to 25: Figure 30B); order confirmation messages are "audio feedback echoing" values and commands; for an order of one hamburger and one cola, the audio confirmation message "necessarily reflects a sequence of the spotted words in the input utterance" by identifying a quantity associated with each item ordered;

"rejecting unreliable or unsafe input for which a confidence measure is found to be low" – (column 13, lines 6 to 10; column 20, lines 35 to 58; column 24, lines 18 to 44; column 25, lines 24 to 37);

"maintaining a dialogue history enabling editing operations and correction operations on all active fields" – (column 6, lines 50 to 57); editing operations and correction operations include "addition", "cancellation", and "replacement" (column 10, lines 18 to 24: Figure 5).

Regarding independent claim 10, *Takebayashi et al.* discloses an article of manufacture for data entry by voice, comprising:

"an operating system" – processing unit 291 contains an operating system (column 29, lines 49 to 56: Figure 45);

"a memory in communication with said operating system" – memory 292 (column 29, lines 29 to 56: Figure 45);

"a speech recognition means in communication with said operating system" – speech understanding unit 11 (column 6, lines 44 to 50: Figure 1);

"a speech generation means in communication with said operating system" – response generation unit 13 (column 7, lines 23 to 43: Figure 1);

"a dialogue history maintenance means in communication with said operating system" – (column 6, lines 50 to 57);

"wherein said operating system manages said memory, said speech recognition means, said speech generation means, and said dialogue history maintenance means in a manner permitting the user to monitor speech recognition of an input utterance by means of a generated speech corresponding to at least one of field-specific values and commands contained within the phrase formed by spotted words within the input utterance, and to perform editing operations and correction operations on all active fields, wherein audio feedback echoing at least one of recognized values and recognized commands is performed upon interpretation of each input utterance, and a sequence of the recognized values echoed in the audio feedback necessarily reflects a sequence of the spotted words within the input utterance" – keyword detection unit 21 (column 8, line 55 to column 9, line 22: Figure 2); keywords are received in a word lattice or frame format ("field-specific values"), e.g. "three" "hamburgers" (column 10, lines 6 to 17: Figure 4); keywords include commands such as "order", "cancellation", and "replacement" commands (column 10, lines 18 to 24: Figure 5; column 6, lines 50 to 57); the multimodal response output generated such that the speech response for the confirmation message of "Your orders are one hamburger, two coffees, and four large colas, right?" is outputted from the loudspeaker unit 15 (column 13, lines 41 to 50: Figure 12C); an order contains both "values" and "commands", as the values are the numbers and types of each item ordered, and the order is a command to provide the items ordered; for a situation in which one hamburger and one cola has already been

ordered, the confirmation is "Your orders are one hamburger and one cola, right?" (column 22, lines 18 to 25: Figure 30B); order confirmation messages are "audio feedback echoing" values and commands; for an order of one hamburger and one cola, the audio confirmation message "necessarily reflects a sequence of the spotted words in the input utterance" by identifying a quantity with each item ordered.

Regarding claims 2 and 14, syntactic and semantic analysis unit 21 determines keywords by semantics (column 6, lines 44 to 50; column 9, lines 38 to 50).

Regarding claims 6, 9, 17, and 20, correction commands include "cancellation" commands for deletion of a last entry, e.g. "That's Wrong" and "Cancel" (column 10, lines 18 to 24: Figure 5) and deletion confirmation (Figure 15B).

Regarding claims 8 and 19, editing operations include "replacement" commands "Rather" and "Instead" (column 10, lines 18 to 24: Figure 5) and replacement confirmation (Figure 15B).

Regarding claim 13, response generation unit 13 generates the speech response in a synthesized voice (column 7, lines 23 to 43: Figure 1).

Regarding claims 23 and 25, *Takebayashi et al.* discloses a keyword lattice and frame format entries for filling in the blank of "each uttered block of text"; orders are confirmed so that corrections to orders can be made ("affording the speaker an immediate opportunity to correct any recognition errors") (column 14, line 9 to 20; column 18, lines 21 to 52); dialogue management unit 12 provides "a dialogue model"

for providing feedback through response generation unit 13 (column 6, lines 55 to 62: Figure 1).

Regarding claims 24 and 26, *Takebayashi et al.* discloses speech understanding unit 11 provides for speech recognition and passes to dialogue management unit 12 (column 6, lines 48 to 62: Figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4, 5, 11, 12, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Takebayashi et al.* in view of *LaRue*.

Concerning claims 4 and 16, *Takebayashi et al.* omits automatic adaptation after a form is filled in and sent for search in a database. However, it is generally well known to provide adaptation to a user's voice for a voice recognition system during downtime once a processing session is completed. *LaRue* teaches automatic adaptation of a word recognition procedure to individual users. (Column 3, Lines 39 to 42; Column 10, Lines 64 to 67; Column 13, Lines 28 to 30) It would have been obvious to one having ordinary skill in the art to perform automatic adaptation as suggested by *LaRue* after

conclusion of an ordering session in *Takebayashi et al.* for the purpose of adapting a voice of an individual user when the processor is not active.

Concerning claims 5, 11, and 12, *Takebayashi et al.* omits a backup input system as a keyboard or touch screen. However, *LaRue* teaches a speech recognition system including a keyboard and an input panel 36 to enhance the ability to communicate audibly in a man-machine interaction. (Column 1, Lines 19 to 27: Column 4, Lines 36 to 39; Column 13, Lines 62 to 63: Figure 2) Including an additional input device in a speech recognition system is generally well known for the purpose of providing flexibility by permitting a plurality of modes of input or when one input device fails to operate. It would have been obvious to one having ordinary skill in the art to include a backup input system as a keyboard or input panel as taught by *LaRue* in the human-computer interaction system of *Takebayashi et al.* to improve and enhance the flexibility of a man-machine interaction for a speech recognition system.

Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Takebayashi et al.* in view of *Cornelison*.

Takebayashi et al. omits letters and numbers for a license plate as field-specific values. However, *Cornelison* teaches a parking ticket enforcement system allowing for the search of license plates by key words of letters and numbers through voice input from a police officer. (Column 7, Line 11 to Column 8, Line 39) This is desirable to provide a police officer on duty the capability of conveniently and effectively determining whether or not an observed vehicle has been associated with criminal activity. (Column

1, Lines 39 to 48) It would have been obvious to one having ordinary skill in the art to apply the word lattice and frame format in the voice data entry of *Takebayashi et al.* to recognize letters and numbers of a license plate as taught by *Cornelison* for the purpose of providing a police officer on duty the capability of conveniently and effectively determining whether or not an observed vehicle has been associated with criminal activity.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Takebayashi et al.* in view of *Richards*.

Takebayashi et al. omits full duplex dialogue interaction with speech recognition and auditory feedback. However, full duplex interaction is well known for interactive voice response (IVR) systems, generally. Particularly, *Richards* teaches a sound card for analogous art game software, where the sound engine is capable of running in a full duplex mode to generate sound while concurrently receiving spoken utterances. (Column 6, Lines 39 to 56: Figure 1B) It is suggested that full duplex capability provides greater flexibility for interactive voice response (IVR) systems so that a user need not wait for the system to cease generating sound before the user begins to talk. It would have been obvious to one having ordinary skill in the art to utilize full duplex dialogue interaction with speech recognition and auditory feedback as suggested by *Richards* in the speech dialogue system of *Takebayashi et al.* for the known purpose of providing greater flexibility for interactive voice response (IVR) systems.

Response to Arguments

Applicants' arguments filed 21 June 2004 have been fully considered but they are not persuasive.

Regarding independent claims 1 and 10, Applicants argue *Takebayashi et al.* fails to anticipate the limitation of audio feedback necessarily reflecting a sequence of spotted keywords. Applicants maintain feedback does not reflect the sequence of spotted keywords in every case for *Takebayashi et al.* This position is traversed.

Firstly, the term "necessarily" of independent claims 1 and 10 raises issues of indefiniteness under 35 U.S.C. §112, Second Paragraph. There are examples provided in the Specification where the audio feedback does not necessarily reflect the sequence of the spotted words. Examples are dialogue turns 2, 5, 8, and 9, on Pages 14 to 15 of the Specification, where the confirmation message does not echo commands for "delete all", "correction", "repeat", and "send". Instead, a corresponding jingle is played, or the reply is a repetition of a prior utterance, or a response is "searching database". Also, in dialogue turn 4, the confirmation message misrecognizes the user input, and the audio feedback does not necessarily reflect the spotted words in the input utterance because the input utterance is misrecognized. Thus, the scope and definiteness of "necessarily" is not clear given the examples provided by Applicants' Specification.

Secondly, there are at least some examples where the feedback necessarily reflects the sequence of the spotted keywords in *Takebayashi et al.* Specifically, the feedback necessarily reflects the sequence of spotted keywords for any original order of

Takebayashi et al. For any original order, a user places an order and the system echoes back the order. At Column 13, Lines 36 to 50, the user orders one hamburger, two coffees, and four large colas; the system echoes back an audio response, saying "Your orders are one hamburger, two coffees, and four colas, right?" See Figures 12A to 12C. Each original order necessarily reflects the sequence of spotted keywords between the quantity of the item and the item ordered in the echoed audio speech response. Similarly, Column 22, Lines 4 to 25, says a user's original order is one hamburger and one cola; the system echoes back a response, saying "Your orders are one hamburger and one cola, right?" See Figures 30A and 30B. Finally, Figures 16, 18, 21, and 22A to 22D of *Takebayashi et al.* provide for partial confirmation of orders and for one by one confirmation. One by one confirmation provides confirmation of each item ordered, so that when an order includes two hamburgers, the system confirms, "Let me confirm one by one. You want two hamburgers, right?" One by one confirmation preserves the sequence of the quantity "two" and the item "hamburgers". Thus, *Takebayashi et al.* discloses a number of embodiments where feedback necessarily reflects a sequence of spotted keywords.

Regarding claims 21 and 22, Applicants argue neither *Takebayashi et al.* nor *LaRue* discloses "providing a full duplex dialogue interaction including speech recognition and passive, auditory feedback."

However, it is maintained Applicants have overlooked the fact that the rejection of claims 21 and 22 under 35 U.S.C. §103(a) is obviousness over *Takebayashi et al.* in

view of *Richards*. It is *Richards* that is cited for teaching the feature of full duplex dialogue interaction, not *Takebayashi et al.* or *LaRue*.

Regarding claims 23 to 26, newly added, *Takebayashi et al.* anticipates these claims. Moreover, these claims raise new issues of indefiniteness.

Therefore, the rejections of claims 1, 2, 4 to 14, and 16 to 26 under 35 U.S.C. 112, 2nd ¶; of claims 1, 2, 6, 8 to 10, 13, 14, 17, 19, 20, and 23 to 26 under 35 U.S.C. 102(b) as being anticipated by *Takebayashi et al.*; of claims 4, 5, 11, 12, and 16 under 35 U.S.C. 103(a) as being unpatentable over *Takebayashi et al.* in view of *LaRue*; of claims 7 and 18 under 35 U.S.C. 103(a) as being unpatentable over *Takebayashi et al.* in view of *Cornelison*; and of claims 21 and 22 under 35 U.S.C. 103(a) as being unpatentable over *Takebayashi et al.* in view of *Richards*, are proper.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (703) 308-9064. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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10/13/04

Martin Lerner
Examiner
Group Art Unit 2654